CLAIMS

1. Method for determining a rotation speed and a rotation direction of a component (20, in particular a transmission output shaft, with a sensor device (1), in which a first sensor signal (I) and a second sensor signal (II) are generated as a function of a rotation speed and rotation direction of the component (2), these signals being phase shifted relative to one another and which, whenever they reach an upper switching threshold (s_o) or a lower switching threshold (s_u), trigger a switching signal in the sensor device (1), such that whenever there are alternating and consecutive switching signals of the two sensor signals (I, II), a pulse signal is emitted as a function of which a variation of a sensor output signal is generated, which is used to determine a rotation speed of the component, characterized in that when the component (2) reverses its rotation direction a pulse signal of the sensor device (1) is only generated when a rotation movement of the component (2) is recognized, a rotation movement of the component (2) being sensed when, in alternation, a switching signal of one sensor signal (I) and after it a switching signal of the other sensor signal (II) occur.

2. Method according to claim 1, characterized in that a rotation direction reversal of the component (2) is characterized by two consecutive switching signals of one of the sensor signals (I or II) without any switching signal of the respective other sensor signal (II or I) occurring in the time interval between them.

3. Method according to claims 1 or 2, characterized in that the sensor signals (I, II) have continuous, at least approximately sinusoidal variations.

4. Method according to claim 3, characterized in that an amplitude of the sensor signals (I, II) varies as a function of a distance (LS) between the sensor device (1) and an area of the component (2) sensed by the sensor device (1).

5. Method according to claims 1 to 4, characterized in that the pulse signals generate a rectangular variation of the sensor output signal of the sensor device (1), such that a width of the rectangle corresponds to a pulse width (t_pb), a distance between two switching signals of a sensor signal (I, II) each generating

a rectangular signal corresponds to a period duration (t_pd), and a height of the rectangles corresponds to a pulse height.

6. Method according to claim 5, characterized in that a predefined value is assigned to the pulse width (t_pb).

7. Method according to claim 5, characterized in that for each of the two rotation directions of the component (2), a respective predefined value (t_pb_v, t_pb_r) is assigned to the pulse width) t_pb).

8. Method according to Claim 5, characterized in that the pulse width (t_pb) varies as a function of the rotation speed of the component (2).

9. Method according to any of Claims 5 to 8, characterized in that the period duration (t_pd) varies as a function of a rotation speed of the component (2).

10. Method according to any of Claims 5 to 9, characterized in that to the pulse height is assigned, respectively, a predefined value (low, high_v, high_r) associated with one of the two rotation directions of the component.

11. Method according to any of Claims 5 to 9, characterized in that to the pulse height is assigned a predefined value (low, high) which is independent of the rotation speed and direction.

12. Method according to any of Claims 1 to 11, characterized in that the upper switching threshold (s_o) and/or the lower switching threshold (s_u) can be varied, preferably as a function of the distance (LS) between the sensor device (1) and the area (3) of the component (2) sensed during the operation of the sensor device (1).

13. Method according to any of Claims 1 to 12, characterized in that the upper switching threshold (s_o) and the lower switching threshold (s_u) are arranged at least approximately symmetrically about a zero transition of the sensor signals of the sensor device.

14. Method according to any of Claims 1 to 13, characterized in that The phase shift of the sensor signals of the sensor device (1) during a rotation of the component (2) amounts at least approximately to p/2.